

# WE'RE IN THE BUSINESS OF ADVANCING AGRICULTURE INTELLIGENTLY.



## INNOVATION CENTER

- 250+ internal field trials annually
- 600,000+ tissues samples since 2010
- 80,000+ spray analysis samples tested
- 90+ active patents

At WinField United, we've staked our entire business on trust and partnership. That same desire to enable the retailer to be the hero at the farmgate is the driving force behind so many of our groundbreaking discoveries and breakthroughs. It's in that same spirit that we designed and built our Innovation Center: a proving ground that includes both creating new products, and improving or enhancing existing products from WinField United and other industry partners, through testing and development. The Innovation Center gives us the ability to "fail faster" so we confidently arrive at the best solutions to evolving issues on the farm.



## SPRAY ANALYSIS LAB AND WIND TUNNELS

A key focus of the Innovation Center is the study of spray application, aided by our patented Spray Analysis Systems in our Wind Tunnel Lab. Here we test active ingredients through state-of-the-art equipment using laser sensors and high-speed photography. Spray Tech 1 provides insights about droplet size and distribution and tank mixes across a library of 300 nozzles. Spray Tech 2 is unique in the world, featuring two sections. The bottom low speed section allows us to simulate ground application in conditions in winds up to 40 MPH. The top high speed section tests aerial application in conditions up to 160 MPH.



After precisely measuring spray droplet size and trajectory with these systems, we can identify the best recommendations for the most efficient applications. This data helps retailers recommend more effective and sustainable spray applications for farmers.



## CHEMISTRY LABS



The Innovation Center has four chemistry labs, including a pilot lab that supports manufacturing scale-up. These labs enable us to make and break products for efficient development of new solutions as issues arise. They also support quality and supply assurance, so we can ensure access to high-quality raw ingredients from multiple suppliers to deliver solutions we know will work. This cutting-edge lab is the tip of the spear - creating hundreds of candidate products that are tested across the Innovation Center to find the products with the highest likelihood of success.

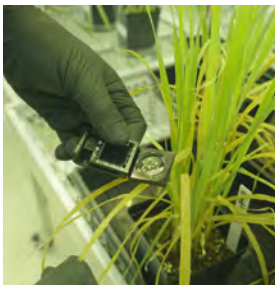


## SEED CARE AND PLANT NUTRITION PERFORMANCE LAB

In this lab we treat thousands of pounds of seed each year for use in research trials in soybeans, wheat, corn, canola, peas, cotton, sunflowers and alfalfa. We also simulate retailer and grower operations to validate a good user experience, looking at flowability, plantability, dust-off, flake-off and more. We also study plant performance factors like germination, emergence, nutrient uptake and stress management so we can help deliver confidence that crops will get the early season stress protection and nutrients they need for a strong start.



## CONTROLLED ENVIRONMENTS LAB

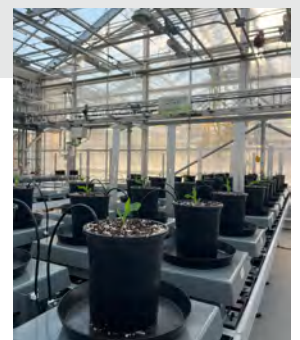


We test products year-round using our greenhouse and growth chambers in the controlled environments lab. We gain a greater understanding of how products work without the expense and unpredictability of field testing. This allows us to accelerate the development of new products and respond to agronomic issues quickly. Year-round testing across environments allows us to collect critical data, arming retailers with insights about how products are expected to perform in real-world conditions. This helps farmers select products that are best-suited for their acres to manage risk and investment dollars.



## PLANT PHENOTYPING LAB

We research the complicated landscape of biological products in our plant phenotyping lab. Our Phenospex system allows us to validate product claims by measuring 20+ plant attributes over time to understand the impact these products have on plant growth and development. The system also creates powerful storytelling visuals by rendering 3D models of every plant every time it scans the greenhouse. Data from this lab helps retailers make more informed product recommendations to growers in this flooded, unregulated market.



## SCHEDULE A TOUR

If you would like to schedule a tour, please reach out to your local WinField United representative.

**WINFIELD  
UNITED**